



**MATERIAL SPECIFICATION FOR
LOAD TRANSFER ASSEMBLIES**

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1441.01	SCOPE
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This specification covers the requirements for load transfer assemblies for use in concrete pavement expansion joints.

1441.01.01 Specification Significance and Use

This specification is written as a municipal-oriented specification. Municipal-oriented specifications are developed to reflect the administration, testing, and payment policies, procedures, and practices of many municipalities in Ontario.

Use of this specification or any other specification shall be according to the Contract Documents.

1441.01.02 Appendices Significance and Use

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner's use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

1441.02 REFERENCES

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

Ontario Provincial Standards Specifications, Materials

OPSS 1442 Epoxy Coated Steel Reinforcing Steel Bar for Concrete

Canadian Standards Association (CSA)

G40.21-04 Structural Quality Steels

ASTM International

A 82/A 82 M-07 Steel Wire, Plain, for Concrete Reinforcement

1441.05 MATERIALS

Dowel bars shall be plain round bars of grade 300 or better according to CSA G40.21.

Dowel caps shall be cold rolled deep drawn quality steel.

Wire shall be according to ATSM A 82M. Wire sizes shall be according to American Steel Wire Gauge.

Materials other than steel may be used as supporting structures, when approved by the Contract Administrator.

1441.07 PRODUCTION

1441.07.01 Fabrication

Dowel bars shall be cut and handled in such a manner as to avoid distortion or burrs that would inhibit free movement in the concrete. Welds shall be resistance or arc type. The assembly shall be readily separable into two parts to permit the greasing of the dowels and the addition of bulkheads and joint fillers.

Dowel bars shall not deviate from the prescribed angle of skew by more than one degree and shall be parallel to each other within a tolerance of zero degrees forty-five minutes. Dowel cap assemblies shall be fabricated with sufficient accuracy to permit the free movement of all dowels within the dowel caps.

Suitable wire ties shall be provided to hold the assembly in normal position during shipping and installation and to permit the fastening and unfastening of the dowel cap assembly.

1441.07.02 Patching

After fabrication, all areas of the dowel bar with damaged epoxy coating shall be cleaned and painted with a patching material according to OPSS 1442.

When inspected as delivered to the Working Area, the following criteria shall apply:

- a) Bars with coating damage greater than 1% of their surface area in any one metre length shall be rejected.
- b) Bars with coating damage of 1% or less of their surface area shall have all damaged areas of the bar coating repaired.
- c) If the additional required repairs result in a total bar surface area covered by patching material exceeding 5% of the bar surface area, the bar shall be rejected.

When the manufacturer is notified by the Owner of the uncertainty of the quality of the coated reinforcing steel bars, such bars shall be rejected and no additional coated reinforcing steel bars shall be shipped until the manufacturer has performed additional testing and notice of acceptance has been received from the Owner.

1441.08 QUALITY ASSURANCE

1441.08.01 Inspection

Delivered units failing to meet the requirements of the Contract Documents shall be either repaired to the satisfaction of the Contract Administrator or removed from the Owner's property and replaced with acceptable units.

Repair or removal and replacement of delivered units that fail to meet the requirements of the Contract Documents shall be at no extra cost to the Owner.

1441.09 OWNER PURCHASE OF MATERIAL

For measurement purposes, a count shall be made of the number of load transfer assembly units supplied and accepted.

Payment at the price specified in the purchasing order shall be for the supply of the load transfer assembly units delivered to the destination on the date and time specified.

The cost of all testing, except that performed in the Owner's laboratory, shall be included in the price.

**Appendix 1441-A, November 2017
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS**

Note: This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract. This appendix does not form part of the standard specification. Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

Designer Action/Considerations

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

Related Ontario Provincial Standard Drawings

OPSD 552.050	Load Transfer Device, Skewed Contraction Joint, Concrete or Composite Pavement
OPSD 552.051	Load Transfer Device, Right Angle Contraction Joint, Concrete or Composite Pavement
OPSD 552.060	Load Transfer Device, Skewed Expansion Joint, Concrete or Composite Pavement
OPSD 552.061	Load Transfer Device, Right Angle Expansion Joint, Concrete or Composite Pavement